PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Moritz Bünemann *et al.*

Serial No.: 10/538,985

Filed: August 18, 2006

For: MILLISECOND ACTIVATION SWITCH FOR SEVEN-TRANSMEMBRANE PROTEINS

Group Art Unit: 1645

Examiner: Unknown

Atty. Dkt. No.: VOSS:008US

Confirmation No.: 2063

CERTIFICATE OF ELECTRONIC SUBMISSION

DATE OF SUBMISSION: December 22, 2006

INFORMATION DISCLOSURE STATEMENT

MS AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

In accordance with 37 C.F.R. § 1.97(g), (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be

an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. § 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is authorized to deduct the appropriate fees from Fulbright & Jaworski Deposit Account No.: 50-1212/VOSS:008US.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,

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Date: December 22, 2006

Form PTO-1449 (modified)	Atty. Docket No. VOSS:008US	Serial No. 10/538,985
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	Applicant Moritz Bünemann *et al.*	
	Filing Date: August 18, 2006	Group: 1645

U.S. Patent Documents	Foreign Patent Documents	Other Art
See Page 1	*See Page 1*	*See Page 1-3*

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	2002/0048811	04/25/02	Devreotes *et al.*	435	325	01/19/01
	A2	6,197,534	03/06/01	Lakowicz *et al.*	435	14	07/15/99
	A3	6,277,627	08/21/01	Hellinga	435	287.1	12/31/98

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Language
	B1	WO 00/34318	06/15/00	WIPO	English
	B2	WO 98/40477	09/17/98	WIPO	English
	B3	WO 99/66324	12/23/99	WIPO	English

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	Altenbach *et al.*, "Structure and function in rhodopsin: mapping light-dependent changes in distance between residue 316 in helix 8 and residues in the sequence 60-75, covering the cytoplasmic end of helices TM1 and TM2 and their connection loop CL1," *Biochemistry*, 40:15493-15500, 2001.
	C2	Angers *et al.*, "Detection of beta 2-adrenergic receptor dimerization in living cells using bioluminescence resonance energy transfer (BRET)," *Proc. Natl. Acad. Sci. USA*, 97:3684-3689, 2000.
	C3	Angers *et al.*, "Dimerization: an emerging concept for G protein-coupled receptor ontogeny and function," *Annu. Rev. Pharamacol. Toxicol.*, 42:409-435, 2002.
	C4	Baird *et al.*, "Circular permutation and receptor insertion within green fluorescent proteins," *Proc. Natl. Acad. Sci. USA*, 96:11241-11246, 1999.
	C5	Babcock *et al.*, "Ligand-independent dimerization of CXCR4, a principal HIV-1 coreceptor," *J. Biol. Chem.*, 278:3378-3385, 2003.
	C6	Bourne and Meng, "Structure: Rhodopsin Sees the Light," *Science*, 289:733-734, 2000.

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	C7	Bunemann *et al.*, "Activation and deactivation kinetics of alpha 2A- and alpha 2C-adrenergic receptor-activated G protein-activated inwardly rectifying K+ channel currents," *J. Biol. Chem.*, 276:47512-47517, 2001.
	C8	Chang and Weiss, "Site-specific fluorescence reveals distinct structural changes with GABA receptor activation and antagonism," *Nature Neurosci.*, 5:1163-1168, 2002.
	C9	Gaietta *et al.*, "Multicolor and Electron Microscopic Imaging of Connexin Trafficking," *Science*, 296:503-507, 2002.
	C10	Gardella and Juppner, "Molecular properties of the PTH/PTHrP receptor," *Trends Endocrinol. Metabolism*, 12:210-217, 2001.
	C11	GenBank accession No. M97370.
	C12	GenBank accession No. M99377.
	C13	GenBank accession no. NM_011199.
	C14	GenBank accession No. U22401.
	C15	GenBank accession no.: NM_000681
	C16	Gether, "Uncovering molecular mechanisms involved in activation of G protein-coupled receptors," *Endocr. Rev.*, 21:90-113, 2000.
	C17	Gether *et al.*, "Fluorescent labeling of purified beta 2 adrenergic receptor. Evidence for ligand-specific conformational changes," *J. Biol. Chem.*, 270:28268-28275, 1995.
	C18	Ghanouni *et al.*, "Functionally different agonists induce distinct conformations in the G protein coupling domain of the beta 2 adrenergic receptor," *J. Biol. Chem.*, 276:24433-24436, 2001.
	C19	Ghanouni *et al.*, "Agonist-induced conformational changes in the G-protein-coupling domain of the beta 2 adrenergic receptor," *Proc. Natl. Acad. Sci. USA*, 98:5997-6002, 2001.
	C20	Griesbeck *et al.*, "Reducing the environmental sensitivity of yellow fluorescent protein. Mechanism and applications," *J. Biol. Chem.*, 276:29188-29194, 2001.
	C21	Griffin *et al.*, "Specific Covalent Labeling of Recombinant Protein Molecules Inside Live Cells," *Science*, 281:269-272, 1998.

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	C23	Heim, "Green fluorescent protein forms for energy transfer," *Methods Enzymol.*, 302:408-423, 1999.
	C24	Honda *et al.*, "Spatiotemporal dynamics of guanosine 3',5'-cyclic monophosphate revealed by a genetically encoded, fluorescent indicator," *Proc. Natl. Acad. Sci. USA*, 98:2437-2442, 2001.
	C25	Huang *et al.*, "The N-terminal region of the third intracellular loop of the parathyroid hormone (PTH)/PTH-related peptide receptor is critical for coupling to cAMP and inositol phosphate/Ca2+ signal transduction pathways," *J. Biol. Chem.*, 271:33382-33389, 1996.
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	C27	Jensen *et al.*, "Agonist-induced conformational changes at the cytoplasmic side of transmembrane segment 6 in the beta 2 adrenergic receptor mapped by site-selective fluorescent labeling," *J. Biol. Chem.*, 276:9279-9290, 2001.
	C28	Karatani *et al.*, "Properties of the bimodal fluorescent protein produced by Photobacterium phosphoreum," *Photochem. Photobiol.*, 71:230-236, 2000.
	C29	Kobilka and Gether, "Use of fluorescence spectroscopy to study conformational changes in the beta 2-adrenoceptor," *Methods Enzymol.*, 343:170-182, 2002.
	C30	Lim and Neubig, "Selective inactivation of guanine-nucleotide-binding regulatory protein (G-protein) alpha and betagamma subunits by urea," *Biochem. J.*, 354:337-344, 2001.
	C31	Loshe *et al.*, "Direct optical recording of intrinsic efficacy at a G protein-coupled receptor," *Life Sciences*, 74: 397-404, 2003.
	C32	Mercier *et al.*, "Quantitative assessment of beta 1- and beta 2-adrenergic receptor homo- and heterodimerization by bioluminescence resonance energy transfer," *J. Biol. Chem.*, 277:44925-44931, 2002.
	C33	Milligan, "Strategies to identify ligands for orphan G-protein-coupled receptors," *Biochemical Society Transactions*, 30:789-793, 2002.
	C34	Okada *et al.*, "Activation of rhodopsin: new insights from structural and biochemical studies," *Trends Biochem. Sci.*, 26:318-324, 2001.

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	C35	Pierce *et al.*, "Seven-transmembrane receptors," *Nat. Rev. Mol. Cell Biol.*, 3:639-650, 2002.
	C36	Prasher *et al.*, "Primary structure of the Aequorea victoria green-fluorescent protein," *Gene*, 111:229-233, 1992.
	C37	Rios *et al.*, "G-protein-coupled receptor dimerization: modulation of receptor function," *Pharmacol. Ther.*, 92:71-87, 2001.
	C38	Sheikh *et al.*, "Similar structures and shared switch mechanisms of the beta2-adrenoceptor and the parathyroid hormone receptor. Zn(II) bridges between helices III and VI block activation," *J. Biol. Chem.*, 274: 17033-17041, 1999.
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	C40	Strange, "Mechanisms of inverse agonism at G-protein-coupled receptors," *Trends Pharmocol Sci.*, 23:89-95, 2002.
	C41	Tsien, "The green fluorescent protein," *Ann. Rev. Biochem.*, 67:509-544, 1998.
	C42	Vilardaga *et al.*, "Measurement of the millisecond activation switch of G protein-coupled receptors in living cells," *Nature Biotechnology*, 21:807-812, 2003.

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